

# Hydra-Stop 4"-12" Insta-Valve 250 Patriot Series

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## Insertion Valve Specification

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**HYDRA-STOP<sup>®</sup>**

Specifications subject to change without notice.



# Hydra-Stop 4"- 12" Insta-Valve 250 Insertion Valve Specification

All Insertion Valves shall conform to the following:

Insertion valve shall be an all stainless steel body Resilient Wedge Gate Valve designed for permanent use in potable water, sewage, raw water, reclaimed water, irrigation and backflow control systems. The design will allow the valve to be installed into an existing pressurized pipeline while maintaining constant pressure and service without system shutdown. No restraining devices, restraining fasteners, or transition gaskets shall be required for the installation or operation of the valve.

## **Installation Method:**

- Traditional line tapping methods shall be used for the Installation of all insertion valves to allow removal of a single coupon for system evaluation. Reaming the pipe, complete removal of a section of pipe (top & bottom), or milling a slot in the pipe shall be prohibited.

## **Trained & Authorized Installer:**

- All insertion valves must be installed by companies trained and authorized by the approved valve manufacturer. This will ensure high quality installation and guarantee the warranty of the product.

## **Valve Body and Bonnet Construction:**

- All insertion valves shall have a stainless steel body, carbon steel epoxy coated bonnet and a reinforced composite polymer valve cartridge to provide superior corrosion resistance, strength and a pressure rating that meets or exceeds the requirements of resilient seated gate valves. The insertion valve shall be stainless steel construction for corrosion resistance, maximum toughness and strength.
- All insertion valves must be capable of working on Cast/Grey Iron or Ductile Iron Class A, B, C and D, IPS PVC, C900 and C909 PVC, Steel and AC pipe diameters without changing either top or bottom portion of split valve body or using a transition gasket.
- All insertion valves must provide a solid support of the host pipe through the entire laying length of the valve body. No gaps or space between the valve body and host pipe shall be accepted.
- All insertion valves shall be rated for 250 psig maximum working pressure. The pressure rating must be permanently marked into the body.
- All insertion valves must be hydrostatically pressure tested to 1.25 times of the system operating pressure (minimum) or 1.5 times of the Insertion Valves 250 psig maximum pressure rating. The test shall be sustained for a minimum of 15 minutes. Once the pressure test is affectively achieved the insertion valve body must not be moved in accordance with AWWA Standards. If the insertion valve body is moved the pressure test must be completed again. Any movement, repositioning, loosening and/or re-tightening must be retested before the pipe is tapped.

## **Resilient Wedge Gate Assembly:**

- Insertion valves shall have an EPDM molded resilient wedge seal. The resilient wedge seal will be affixed into a reinforced nylon composite polymer valve cartridge. The entire assembly shall be inert and impervious to corrosion.
- The nylon composite polymer valve cartridge shall be engineered to come into contact with the interior of the host pipe and an engineered sealing surface in the valve body to create a seal. The resilient wedge shall be reinforced to resist abrasion thus extending the life and quality of the shutdown where the wedge contacts the host pipe.
- Pressure equalization on the down or upstream side of the closed wedge shall not be necessary to open the valve.
- The wedge shall be symmetrical and seal equally well with flow in either direction.
- The resilient wedge must ride inside a minimum of four body channels to maintain wedge alignment throughout its travel and to achieve maximum fluid control regardless of high or low flow pressure or velocity.
- Insertion valves shall have a full size, full port flow way that is unobstructed, and free of depressions to provide optimum flow and sealing and not trap tuberculation or debris.

## **Valve Dimensions and Weight:**

- Maximum height of the valve from the **center** of the host pipe to the top of the operating nut shall not exceed the following dimensions:
  - 4" = 18.6"
  - 6" = 21.5"
  - 8" = 24.6"
  - 10" = 30"
  - 12" = 33"
- Maximum laying length of the valve body shall exceed the following dimensions:
  - 4" = 12"
  - 6" = 12"
  - 8" = 16"
  - 10" = 24"
  - 12" = 24"
- Maximum weight of the valve shall not exceed the following weight:
  - 4" = 138 lbs.
  - 6" = 173 lbs.
  - 8" = 229 lbs.
  - 10" = 370 lbs.
  - 12" = 425 lbs.

### **Fusion-Bonded Epoxy / E Coating:**

- Insertion valves shall have all stainless steel bodies, fasteners and epoxy coated carbon steel valve bonnet. The use of epoxy coatings for protection against corrosion is deemed insufficient for any component other than the valve bonnet.

### **Gaskets and Stem Seals:**

- Insertion valves shall utilize four O-Ring's to seal between valve body to valve bonnet and valve stem. These O-rings shall be located in such a fashion as to ensure the 250 psig pressure worthiness and prevent ground water and/or foreign materials from entering the valve.

### **Valve Stem:**

- Insertion valves shall be NRS (non-rising stem) and operate with standard turns 3 turns per diameter inch to open and close.
- Insertion valves shall be operated by a 2" square wrench nut – open left or open right.
- The gate valve stem shall be made of stainless steel.
- The gate valve stem shall be able to withstand torque of 700 ft. lbs. Of torque without compromising operation.
- The NRS stem must have an integral stem collar manufactured of no lead bronze. Two-piece stem collars are not acceptable. The stem shall be affixed into the valve cartridge to maintain stem alignment, low torque and continuous operation of the valve.

### **Hardware:**

- All bonnet and valve body fastener hardware shall be stainless steel.
- Valve cartridge locking pins shall be made of grade 8 zinc coated carbon steel to prevent galling with stainless steel pin plugs coated to prevent galling.

### **Split Restraint Devices & Fasteners:**

- Insertion valves that require the use of external or integral split restraint devices and or restraint fasteners is prohibited.

### **Quality Assurance:**

- Insertion valves shall be factory pressure tested and serialized for traceability before leaving the manufacturing facility to assure quality. Proof of successful factory pressure test must be made available upon customer request within three business days.

**American Iron and Steel Act:**

All components shall meet American Iron and Steel Act, Buy America and Buy American requirements, regulations and legislation.

**Value Added Features and Benefits:**

- All moving and operating parts must be removable, repairable and or replaceable under pressure to ensure easy repair of broken or damaged parts.
- Insertion valves must have the ability to be converted to a line stop fitting in the field without modification.

The 4"-12" Insertion Valve shall be a Hydra-Stop Insta-Valve 250 Patriot Series (Patents Pending) or written preapproved equal.

APPROVED BY:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_/\_\_\_/\_\_\_